

IEEE-SA Standards Development Lifecycle

NIH Workshop on Standards and Modularity of Brain-Computer Interfaces and Neuroprostheses

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IEEE – A Global Organization



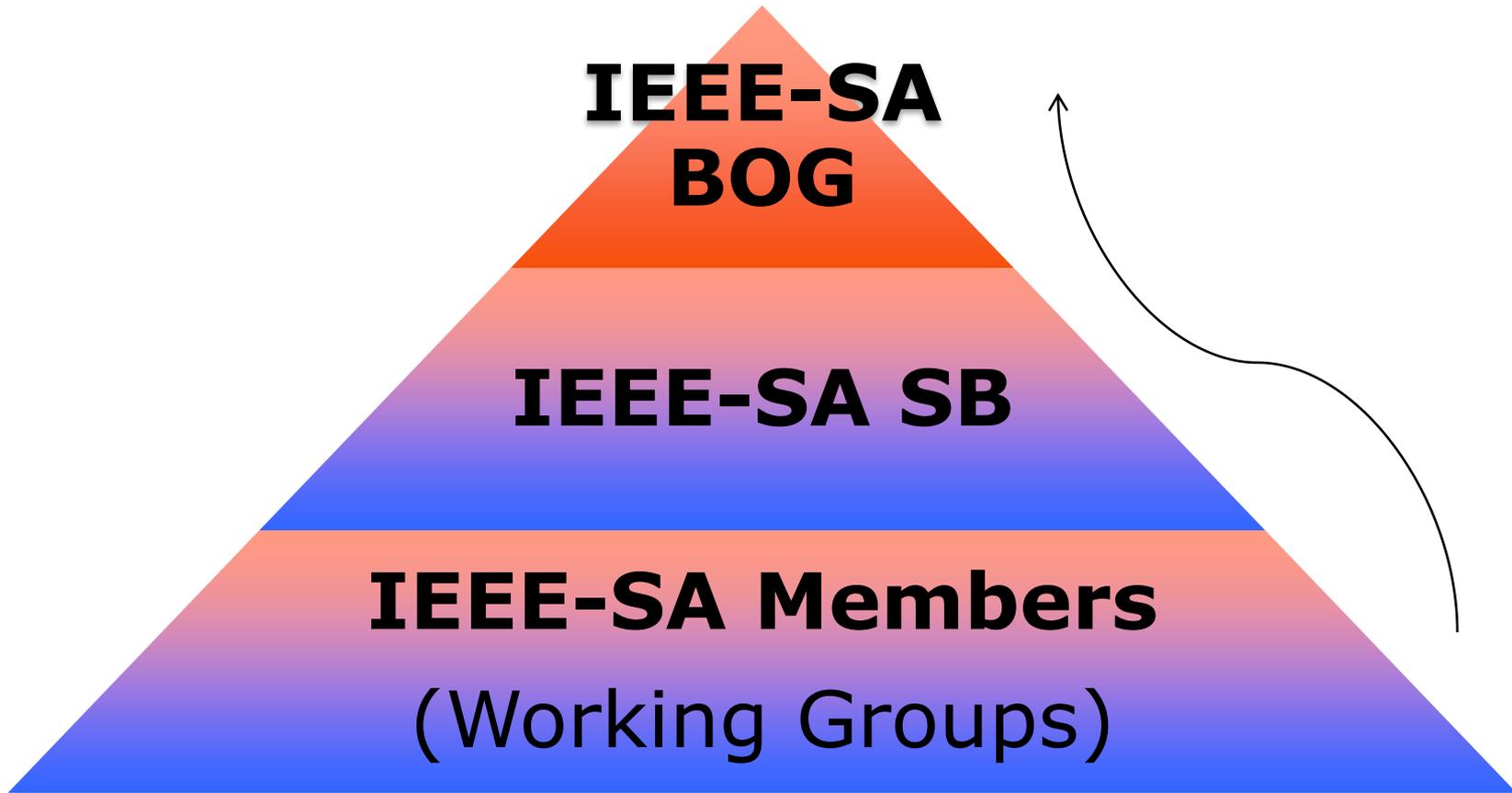
- The world's largest professional and technical organization.
- IEEE global reach is 426,000+ members in 160+ countries.
- 39 technical societies and 7 technical councils.
- Led by a diverse body of elected and appointed volunteer members.
- Consensus building organization.
- Globally recognized standards-setting body within IEEE.
- Over 20,000 standard developers worldwide.
- Over 1200 active standards and 550 in development.

No Restrictions in Engagement to Participate in Standards Development

- Open in membership, participation and governance
- No restrictions
- Any individual or organization globally
- Any industry or size of company



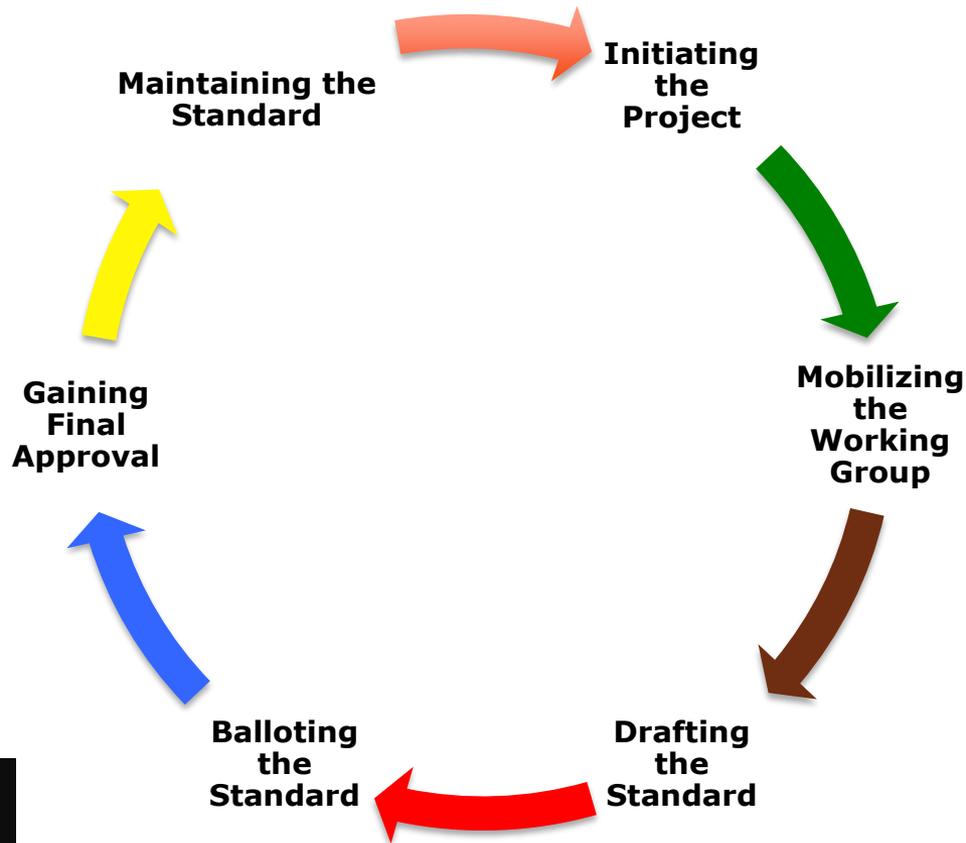
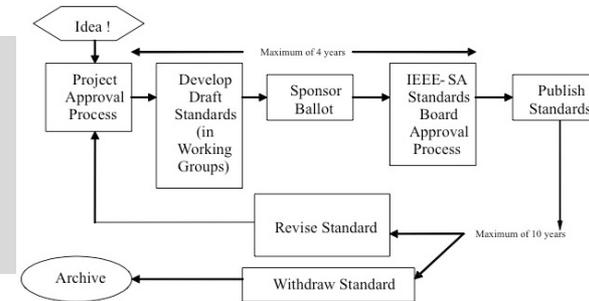
Participants are the Driving Force Behind the Development of Standards



What are the Types of Standard Projects?

- **Standard**: documents containing mandatory requirements.
- **Recommended Practice** documents outlining preferred procedures are presented
- **Guide** offering suggestions for working with a technology with no clear cut recommendations are made.

The Standards Development Lifecycle



Basic Principles Guide Standards Development

- Openness
- Due Process
- Balance
- Right of Appeal
- Consensus

Initiating the Project

- Starts with an **idea** or concept where there is need to be standardized.
- Discuss proposal with an IEEE technical sponsor (required), e.g. Engineering in Medicine and Biology Society, EMB Standards Committee).
- Submit a Project Authorization Request (**PAR**), using **MyProject**. Be cognizant of the PAR submittal deadlines!
- New Standards Committee (NesCom) review and approval sets the official start of a Working Group.

What is a Sponsor's role in the standards development process?

An IEEE-approved entity must sponsor a standard, typically an IEEE professional society or a Committee.

- **Oversees the WGs standards development process from inception to completion.**
- Ensures the rules and processes of the essential principles of due process, openness, consensus, balance and right of appeal are followed.
- Decides stability of the (draft) full standard if ready for ballot.

Maintains close working relationship with IEEE SASB and Staff for procedural and administrative guidance.

Society Liaisons to IEEE-SASB

Engineering in Medicine and Biology

**EMB Standards
Committee**

**EMB
C. Carey**

**EMB/IEEE 11073™
Standards
Committee**

**EMB/11073
E. Sloane**

IEEE Staff Liaison
Kathryn Bennett

<http://standards.ieee.org/about/sasb/liaison.pdf>

Working Groups are Open Groups

task to create and write the standard



- Chair provides leadership and guidance to WG members and contact person for technical issues
- Participation is open to anyone with technical expertise, knowledge and dedicated interest.
 - Individual standards projects (IEEE or IEEE-SA membership not required).
 - Corporate standards projects (IEEE-SA corporate membership required) .
- Meeting minutes and broad representation encouraging global participation.
- **The goal is to reach consensus, move to Sponsor ballot, and finally IEEE-SA approval.**

Working Group Development

- Official work begins with PAR approval
- WG is governed by approved Policies and Procedures.
- WG Chair is typically appointed by the Sponsor.
- WGC can assign officers: e.g., Vice-chair, Secretary, Treasurer
- Meetings are open
 - Agendas posted prior
 - At meetings, WGC has a duty to call for Patents
 - Attendance roster and affiliation shall be identified at each meeting

Mobilizing the Working Group

- Organizes to prepare and draft the standard
- **The PAR approval signals start time of the project to develop or write the standard.**
- WGs meet, discuss and make technical decisions in the standard development process.
 - Respect diverse points of views.
- WGs maintain communication with Sponsor and IEEE staff. Provide progress updates. Seek administrative guidance, understand the procedures and request training, if necessary.

WGs sustain openness, follow IEEE-SA P&P, prepare agenda/meeting minutes that are publicly available.

Drafting the Standard

- ❑ WG internally drafts, reviews, and revises the standard. **The first milestone for the WG is to finish the first complete draft.**
- ❑ Can be a tedious and lengthy process.
- ❑ A standard can not take more than 4 years to complete. If needed, the Sponsor has to request extension to finalize the project.
- ❑ IEEE-SA has a professional staff of editors to edit and prepare the document.
- ❑ IEEE-SA has fee-based professional services to help manage the standards development process move efficiently and swiftly.

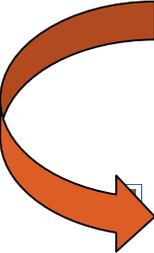
Keep in mind the scope and purpose at all times. IEEE-SASB will be using this to evaluate the document against!

The Sponsor Balloting Process

- When draft is mature, WG submit to Sponsor for balloting.
- **Sponsor forms the ballot group with persons interested in the standard.**
- **Principle of consensus is vital.**
 - Balance in representation from all interested parties with no domination of any one group or company.
 - At least 10 members help ensure balance.
- **Goal is to gain the greatest consensus.**
 - 75% of all ballots returned and bear affirmative “yes” vote.
 - Usually lasts 30-60 days.
 - Balloters can approve, disapprove or abstain. With 30% abstentions, ballot fails.

Gaining Final Approval

Ultimately, the IEEE SASB is final approval of all documents and PARs



Submit the document and supporting material to RevCom.

- RevCom issues a recommendation.

- IEEE-SA Standards Board approves or disapproves the standard.

- **If approved, it is valid for 10 years from approval date.**

- Revisions or extensions can be appended as amendments.

- After 10 years, standard is revised or withdrawn.

- **Revisions require PAR approval and the normal balloting process.**

Standards are “living” documents

EMB Standards Committee-Sponsored Projects and Working Groups

Approved IEEE Standards

- **IEEE 2010**- Recommended Practice for Neurofeedback Systems
 - EMB/Stds Com/Neurofeedback
- **IEEE 1708** - Standard for Wearable Cuffless Blood Pressure Measuring Devices
 - EMB/Stds Com/WC-BPM

Standards in Development

- **P1847** - Recommended Practice for Common Framework of Location Services (LS) for Healthcare
 - EMB/Stds Com/LS joint with CRFID
- **P2650**- Standard For Enabling Mobile Device Platforms To Be Used As Pre-Screening Audiometric Systems
 - EMB/Stds Com/LS

Joint Sponsors with Other Societies

- **P360** - Standard for Wearable Consumer Electronic Devices - Overview and Architecture
 - CES/SC/WWG (IEEE Consumer Electronics Society) **joint** with EMB/Std Com

Under discussion with IEEE-SA and the IEEE Computer Society...

- **3333.2.-2015** - Bio-CAD File Format for Medical Three-Dimensional (3D) Printing (as joint sponsor with CS).
- The possibility for EMB to take the lead as primary sponsor for the other **3D Medical Applications Projects** is also a consideration.

ADDITIONAL SLIDES

myProject

- A web-based tool that facilitates the IEEE standards process.
- A database that holds information related to the standards process.
- A tool used by IEEE members, staff and others who want to participate in the standards process.
- Balloting is done through myBallot.

How to Join an Activity Area in myBallot

Balloting is done through the **myBallot system**.

- Need IEEE Account username and password to log in to **myProject**.

■ **Create your Activity Profile.**

- Designate the committees & projects that interest you.
- Receive notifications when ballot groups are formed.

■ **Join a Balloting Group.**

- Express your interest in voting participation for various projects.
- To join a ballot group, you will need to log onto **myBallot** to enroll.
[No invitation is necessary]
- Log onto **myBallot** and click the link "Show/Join Open Ballot Invitations".



IEEE STANDARDS ASSOCIATION

eTools

PLEASE SIGN IN

Now you can access myProject, Attendance Tool, and Mentor with a single sign in. Simply enter your IEEE Account username/email and password below to begin!

USERNAME/EMAIL:

PASSWORD:

SIGN IN TO: Standards Dictionary ▾

SIGN IN

Need Help? Access the [myProject User Guide \(.pdf\)](#) or visit the [eTools Documentation Page](#)
[Retrieve Your Account Username and/or Password](#)
Note: IEEE uses Cookies for Account Registration, Change Password and Recover Username/Password



Need an IEEE Account?
Get Yours Now! It's FREE and does not require IEEE or IEEE-SA membership

What is eTools?

eTools is the Standard Association's collection of online tools and resources for standards developers.

MYPROJECT
myProject is the Standard Association's tool to allow you to better manage and keep up to date on projects and topics that you are interested in.

ATTENDANCE TOOL
Attendance Tool allows Working Groups to setup meetings and record attendance.

MENTOR
Mentor provides a secure area where Working Groups can manage documents outside of public view.

STANDARDS DICTIONARY
Standards Dictionary is a database of terms as defined in IEEE standards. This application is made available to Sponsor/Working Group officers and technical editors.



Create Your Activity Profile

IEEE STANDARDS ASSOCIATION

eTools

Corporate Accounts

myProject™

Carole Carey Sign Out

myTools

Help

Messages (115 unread)

Report a Bug

Announcements

Account

Projects

Balloting

Entity

myProject™

Welcome: Carole Carey (SA PIN: [REDACTED])

Active Email Addresses: c.carey@ieee.org, carolecarey@mac.com (update)

IEEE-SA Membership Expires: 01-Mar-2015

[Submit a PAR](#)

[Manage Activity Profile](#)

[Manage Committees](#)

[RevCom Submission](#)

[PAR/Standard Report](#)

[Sponsor P&Ps and Sponsor Scopes](#)



[Send Sponsor Message](#)

[View IEEE Society-Staff Liaisons](#)

[View Active PARs](#)

[Send Notification to Group](#)

COMPANION DOCUMENTS, TOOLS & RESOURCES FOR STANDARDS DEVELOPERS

NEW RESOURCE AREA!

myTools offers a handy list of companion documents, templates, presentations, tools and resources for standards development, organized for ease of access.

1. [Initiating a Project](#)
2. [Mobilizing a Working Group](#)
3. [Drafting a Standard](#)
4. [Balloting a Standard](#)
5. [Approving a Standard](#)
6. [Maintaining a Standard](#)

POLICY & PROCEDURE SHORTCUTS

- [Imperative Principles](#)
- [IEEE Code of Ethics](#)
- [IEEE Standards & Indemnification](#)
- [Standards & The Law](#)
- [Baseline Operating Procedures](#)
- [Boards & Committees](#)
- [Policies & Governance Area](#)

myProject™ >> Manage Activity Profile

In the list of Activity Areas below (initially a list of Societies) clicking on (+) will expand the selection into its constituent components as follows from which you may select the Technical Activity Areas in which you are interested from either a general interest standpoint or specific technical project in which you wish to be involved and presumably ballot.

Society	-- What you are Enrolling in --
<input checked="" type="checkbox"/> Sponsor	Enrollment as an interested party in general work of committee or indicating an interest in being notified on Ballot Invitations for all projects in a WG or all projects in a Sponsor.
<input checked="" type="checkbox"/> Working Group	
<input checked="" type="checkbox"/> Project	Enrollment as interested party in the detailed technical work of the committee and as a member in the specific Project's Ballot.

Please note that these selections will simply place you on the list of IEEE-SA recognized interested parties for that general or specific technical area. Whether or not you have become a member or voting member of the area depends on the membership criteria of that area. Please contact the respective Chair for further information or to request membership.

SEARCH

CONTINUE

CANCEL

Name	Designator ▲	Contact
<input checked="" type="checkbox"/> IEEE Aerospace and Electronic Systems Society	AES	
<input checked="" type="checkbox"/> IEEE Antennas and Propagation Society	APS	
<input checked="" type="checkbox"/> IEEE-SA Board of Governors	BOG	
<input checked="" type="checkbox"/> IEEE Broadcast Technology Society	BTS	
<input checked="" type="checkbox"/> IEEE Computer Society	C	
<input checked="" type="checkbox"/> IEEE Consumer Electronics Society	CES	
<input checked="" type="checkbox"/> IEEE Computational Intelligence Society	CIS	
<input checked="" type="checkbox"/> IEEE Communications Society	COM	
<input checked="" type="checkbox"/> IEEE Dielectrics and Electrical Insulation Society	DEI	
<input checked="" type="checkbox"/> IEEE Electron Devices Society	EDS	
<input checked="" type="checkbox"/> IEEE Education Society	EDU	
<input checked="" type="checkbox"/> IEEE Engineering in Medicine and Biology Society	EMB	
<input checked="" type="checkbox"/> <input type="checkbox"/> IEEE 11073TM Standards Committee	EMB/11073	Elliot Sloane
<input type="checkbox"/> Health informatics -- Point-of-care medical device communication -- Part 10101: Nomenclature	EMB/11073/11073-10101	Elliot Sloane
<input type="checkbox"/> ISO/IEEE 11073-10201:2004, Health informatics - Point-of-care medical device communication - Domain information model	EMB/11073/11073-10201	Elliot Sloane
<input type="checkbox"/> Core	EMB/11073/Core	Todd Cooper
<input checked="" type="checkbox"/> <input type="checkbox"/> Lower_Layer	EMB/11073/LL	Malcolm Clarke
<input checked="" type="checkbox"/> <input type="checkbox"/> Personal_Health_Device	EMB/11073/PHD	Daidi Zhong

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myBallot Home (Management)

Balloting Process

[Initiate Invitation Request](#)

[Mandatory Editorial Coordination](#)

[Initiate Sponsor Ballot](#)

[Initiate Recirculation](#)

Balloting Tools

[Manage Misc. Coordination Users](#)

[View Invitation Summary](#)

[Manage Sponsor Ballot Activity](#)

[Download/Upload Comment Response](#)

[Submit Rogue Comment](#)

General

[Send Liaison Message](#)

[Send Balloting Center Message](#)

[Send Notification to Balloting Group\(s\)](#)

[Default System Parameter View](#)

[myBallot™ Home \(Voter\)](#)



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